

NAVAL WAR COLLEGE  
Newport, R.I.

DECEPTION, COUNTERDECEPTION AND THE FUTURE

by

Andrew J. Budka  
Colonel, U.S. Marine Corps

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: Andrew J. Budka

20 May 1996

Paper directed by Captain George W. Jackson  
Chairman, Joint Military Operations Department

19960815 010

DTIC QUALITY INSPECTED 4

DISTRIBUTION STATEMENT A

Approved for public release;  
Distribution Unlimited

## REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED	
2. Security Classification Authority:	
3. Declassification/Downgrading Schedule:	
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.	
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT	
6. Office Symbol: C	7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207
8. Title (Include Security Classification): DECEPTION, COUNTERDECEPTION AND THE FUTURE (U)	
9. Personal Authors: COLONEL ANDREW J. BUDKA, USMC	
10. Type of Report: FINAL	11. Date of Report: 20 MAY 1996
12. Page Count: 23	
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.	
14. Ten key words that relate to your paper: Deception, Counterdeception, Tempo, Intelligence, Collection, Force Multiplier, Synergy, Surprise, Operational Art.	

15. Abstract: Deception and surprise have been an integral part of war since the beginning of recorded history. This force multiplier continues to be used to the present time because the surprising truth is that it almost always works. A determined adversary bent on deception, and willing to invest the required time and resources, will be successful and can achieve initial surprise. Counterdeception is a difficult task, and despite America's demonstrated intelligence collection capability, will not likely prove effective much of the time. While there are techniques that can reduce vulnerability to deception and surprise, the best option is to assume that sooner or later your adversary will achieve some deception successes, and plan accordingly. American officers operating as "opposing forces" commanders at the National Training Center in California are already successfully manipulating intelligence indicators and deceiving our collection platforms. It will not be long until our adversaries learn to do the same.

16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			
18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19. Telephone: 841- <del>622</del> 6461		20. Office Symbol: C	

Security Classification of This Page Unclassified

## **ABSTRACT**

Deception and Surprise have been an integral part of war since the beginning of recorded history. This force multiplier continues to be used to the present time because the surprising truth is that it almost always works. A determined adversary bent on deception, and willing to invest the required time and resources, will be successful and can achieve initial surprise.

Counterdeception is a difficult task, and despite America's demonstrated intelligence collection capability, will likely fail most of the time. While there are techniques that can reduce vulnerability to deception and surprise, the best option is to assume that sooner or later your adversary will achieve some deception successes, and plan accordingly.

American officers operating as "Opposing Forces" commanders at the National Training Center in California are already successfully manipulating intelligence indicators and deceiving our collections platforms. It will not be long until our adversaries learn to do the same.

## DECEPTION, COUNTERDECEPTION, AND THE FUTURE

Military deception and its attendant result, surprise, have been an integral part of war since the dawn of recorded history. In the ancient world, one need only study the dictums of the Chinese sage Sun-Tzu<sup>1</sup> or the biblical conquest of Palestine by Joshua and the Israelites<sup>2</sup> to understand that these earliest of historical warriors and advisors understood the efficacy of deceiving the enemy to acquire victory at a lesser cost. Another study has noted that all of the "Great Captains", so-called, i.e., Hannibal, Napoleon, Marlborough, Rommel, Patton and MacArthur (to name a few) used deception operations masterfully to achieve success.<sup>3</sup> In more recent times, large-scale, sophisticated deception operations were extensively conducted by all sides during the Second World War<sup>4</sup> and have been evident in many of the conflicts of the last fifty years. There is no evidence that any of our would-be adversaries will abandon this option in future wars against the United States.

The incredible truth about military deception operations is that they are almost always successful. As Janice Stein notes:

"...when a challenger sets out to deceive, surprise is usually the result. It is the norm rather than the exception."<sup>5</sup>

When any adversary determines to deceive his opponent, and then in a rational way, spends the required time and resources to be convincing, the result is almost always predetermined. The opponent will most likely be surprised and thus forced, at

least temporarily, to cede the initiative to the deceiver.

While deception operations can occur at all levels of war, the most complex are found at the strategic and operational strata, which permit the required time and resources for the great gain that is anticipated. Deception activities do often take place at the tactical level, but the limited scope of tactical actions allow the enemy to respond and recover. Thus, surprise at this level will not usually threaten the entire operational or strategic design of the adversary.

Professor Michael Handel has written:

"In the case of unequal opponents, deception and surprise can help the weaker side compensate for its numerical or other inadequacies."<sup>6</sup>

Since the United States is undoubtedly, in this mid-period of the last decade of the Twentieth Century, perceived by all our potential challengers as the most powerful military opponent, it will be in their interest to use deception operations against us at the operational level with the goal of offsetting our advantage in military power and skill. Indeed, they will be remiss in their military and operational responsibilities if they do not.

This paper will therefore briefly consider why military deception operations, in general, are so successful; and examine some counterdeception techniques that could prove useful. It will also offer a glimpse of the deception tactics future antagonists may use against our operational forces, especially in light of the intelligence collection capabilities that were revealed to all the world during the Desert Shield/Desert Storm operations.

## WHY MILITARY DECEPTION OPERATIONS ARE SO SUCCESSFUL

Probably the most exhaustive study of military deception was conducted by Barton Whaley. He examined dozens of deception operations in the Twentieth Century and found that all sides were vulnerable to deception, even if they expertly practiced the art themselves. He states:

"...the deceiver is almost always successful regardless of the sophistication of his victim in the same art."

Why should this be so? As Professor Handel opines in his study of the 1973 Yom Kippur war, all the information needed to understand that the Egyptians were about to attack had been collected by the Israeli military intelligence and considered by veteran decision-makers wary of Egyptian designs. Yet they failed to act.<sup>8</sup> The Egyptian army subsequently attacked across the Suez Canal, achieved operational surprise, and ultimately its strategic objective: the return of the territory of the Sinai.

Much of the Suez operation was uncovered before the crossing. But as other authors have written, most deception operations usually have only a limited duration and are often unmasked before the attack. Yet they are successful anyway.<sup>9</sup> Indeed, since almost all deceptions are exposed as the operation proceeds, the real intent is to deceive the adversary just long enough to prevent his timely reaction.<sup>10</sup> If the time and the place of attack are protected to a point where the attacker can concentrate his forces against the relative weakness of the enemy's defenses, then initial success is assured.

Therefore, adversary deception operations at the operational level will always mimic or imitate military activity, and target our intelligence analysis and operational decision-making sections. The deception will take one of two forms: total ambiguity of action or the diversion of attention and resources.

In the former, the enemy will strive to increase the "fog of war" so that a precise picture of operational activity cannot be discerned. This action tries to blur the theater of operations, hoping that by the time we have sorted through the information it will be too late, to respond in a timely manner.

In the latter, the deception activity will attempt to focus our attention and resources on responding to one particular course of action, vice the course of action the enemy actually intends to employ, thus hoping

"...to reduce ambiguity by building up the attractiveness of the wrong alternative."<sup>11</sup>

These active deceptions almost always work because most opponents assiduously conduct intelligence collection operations to expose enemy activity and intentions. This is especially true of the United States' military forces because we have invested greatly in high technology, intelligence collection and analysis hardware, and systems. As some authors have noticed:

"Unless the target intelligence organization is inept...most activity will be detected..."<sup>12</sup>

Therefore, an adversary intent on deception can paint any picture it desires by mimicking military activity and allowing collection against it. Unless, the adversary's intentions can



be divined by some other means, the tendency is to believe the false indicators. Moreover, once these first erroneous perceptions are made by the analysis sections, it is very difficult for human nature and psychology to change them.<sup>13</sup>

More importantly, an opponent, over an extended period of time, can be programmed to accept certain activities as routine and come to ignore them, or at least consider them benign. This is known as the "cry-wolf" syndrome. The adversary constantly repeats a pattern of activities, and then, after the enemy has been sufficiently conditioned, surprises him with an attack utilizing precisely this hitherto repetitive, benign course of action. The aforementioned Egyptian army crossing of the Suez Canal in October of 1973 is a classic example of the "cry-wolf" deception operation. Michael Dewar points out that the Egyptians conducted over forty major crossing exercises in the year before the actual crossing operation occurred.

"Large quantities of bridging equipment were brought forward and a small amount remained behind each time unnoticed by the Israelis. Constant repetition of harmless training exercises gave the attack ... complete surprise."<sup>14</sup>

Richards Heuer states that it is fundamental to the human mind that "...we tend to perceive what we expect to perceive."<sup>15</sup> As patterns become familiar we tend to ignore them and thus become open to deception. No matter how ambiguous the picture, the human mind seeks simplicity and forms a tentative hypothesis concerning the information it is receiving. If this initial impression is erroneous, but becomes reinforced as true in the

adversary's mind, it will be difficult for him to respond to information that later contradicts his initial assessment.<sup>16</sup>

Therefore, the easiest type of deception to effect is one in which the deceiver reinforces the adversary's preconceived notions. Concocting a deception scheme that causes the adversary to change his mind is a far more difficult task.

The deceiver always has a tremendous advantage because only he knows his true intentions. He also has at his disposal literally an infinite number of options with which to confuse the enemy. No amount of analysis on the adversary's part can account for them all.<sup>17</sup> Ultimately, deception operations succeed because, although, in hind sight, all the 'signals' or indicators that predict a certain enemy course of action are collected and examined by the adversary's intelligence systems and analysts, those particular 'signals' which point to some specific plan or option cannot be extracted from the 'noise' the total activity background. This background is composed of literally hundreds or thousands of individual events that form the dynamic at the operational level of war. In other words, the scope of modern operational military activity often provides too much information, which tends to mask rather than illuminate specific enemy intentions or likely courses of action.<sup>18</sup> Despite modern sophisticated collection and analysis equipment, there is no totally reliable way to filter a likely enemy action from the great amount of information collected, except by analytical experience, painstaking examination of the evidence, and luck.

## IS COUNTERDECEPTION POSSIBLE?

The short answer is yes, but it is a most difficult task. The reality is that a skilled adversary, conducting a well-planned and well-resourced operational deception possesses all the advantages over his opponent. Therefore, any counterdeception effort involves fundamental judgments that are not easy to assess:

"When should we disbelieve our eyes and ears and the seemingly logical conclusions of the mind?"<sup>19</sup>

When should we doubt the logic of our analysis of enemy activity, second-guess ourselves, and determine that all the evidence which points to a particular enemy course of action is deception or subterfuge?<sup>20</sup> The great challenge for any operational staff and Commander is to sort through an immense quantity of data collected on all categories of enemy activity, some of which may be purposely planned to confuse or reinforce a wrong opinion, and decide which indicators are authentic and which are not.<sup>21</sup>

Logically, one would assume that being cognizant of possible enemy deception schemes would sharpen our awareness and increase our ability to spot deception. But unfortunately, an analysis posture seeking evidence of enemy deception schemes is counterproductive and may even be dangerous. The evidence suggests that maintaining an alert mindset towards the prospect of adversary deception paradoxically only increases the susceptibility to it. That is, the more intently we look for deception indicators the more likely we are to be deceived.

Moreover, we begin to find evidence of deception in enemy activity where none actually exists.<sup>22</sup>

There is usually no concrete information available that indicates that certain enemy activities are performed solely for deception purposes. Therefore, intelligence analysis sections are placed in the unenviable position of attempting to predict a single event, which may break sharply from the recent past behavior of the adversary, using data specifically collected in that recent past.<sup>23</sup> Gamblers and psychics have the same problem. Unfortunately, history records that intelligence staffs are often about as accurate as the aforementioned with regard to correctly predicting adversary deception operations. There is simply no empirical or logical way to ferret out operational deception with any degree of accuracy or consistency. As one researcher has noted:

"...the world of the intelligence analyst is a scientist's nightmare."<sup>24</sup>

This opinion is correct because the bulk of collected intelligence is ambiguous; that is, it can be interpreted variously. Official British documents, produced after the Second World War, attest to this fact and recognize the analysis dilemma concerning enemy activity:

"The fact is that in war, it is usually possible to produce some sort of evidence in support of almost every course-of-action open to the enemy."<sup>25</sup>

But stating all this does not mean that concerted efforts to detect adversary deception operations cannot prove fruitful. Neither, should it preclude us from examining any evidence

that points in that direction. There are several principles and suggestions of counterdeception which Intelligence staffs and the operational commander can put into practice to reduce overall vulnerability to enemy deception and surprise.

**1. VERIFY ENEMY ACTIVITY BY MULTIPLE SOURCES.** Obviously this is not possible to do in every case, but it means that if information of major importance is received from a non-material source, such as human or signals intelligence, it must be verified and positively corroborated by direct observation from imagery or reconnaissance. For example, if a series of intercepts indicates that a sizable enemy force is now located in a specific local, it is important to visually verify the authenticity of this report, so as to preclude the possibility of deception.<sup>26</sup>

**2. SURPRISE OCCURS MOST OFTEN BECAUSE THE VICTIM MISJUDGES THE TERRAIN AND THE CAPABILITIES OF THE ENEMY.**<sup>27</sup> The prudent operational commander must never consider difficult terrain or adverse weather as a detriment to enemy activity. History is replete with such miscalculations. In 1940, the French military leadership had so convinced themselves that the Ardennes region was impassable to armor or mechanized traffic, that even series of intelligence reports that indicated that the Germans were planning to use this area as a likely avenue of approach were ignored, with catastrophic results. They chose to ignore the warnings since they did not consider the Germans capable of such complex operations.<sup>28</sup> Ironically, the Americans made the same miscalculation regarding German capabilities in the same area in

1944 and the result was the near disaster of the Battle of the Bulge.<sup>29</sup>

3. **REMEMBER THE RULE OF PLAUSIBILITY.** Deceptions at the operational level require a substantial investment of time and resources. They must be closely coordinated, because of their complexity, with other operational tasks and preparations. Therefore, as they view enemy activity over time, analysts must remain alert to incongruous events that contradict the pattern analysis and hint at something amiss.<sup>30</sup> Are there anomalies that call into question the overall picture of enemy activity that we see developing? Is certain information that might confirm enemy intentions missing?<sup>31</sup> As Professor Michael Dewar points out:

"The making of a deception plan is a tortuous process fraught with difficulties, snares and complications. The opportunities for error, inconsistencies and omissions are considerable."<sup>32</sup>

4. **MAINTAIN A HIGH OPERATIONAL TEMPO.** By retaining the initiative, we offer the enemy less time to conduct the necessary preparations required for a deception at the operational level of war. Even if we must assume the defensive, spoiling attacks or other alternatives can reduce the enemy's ability to deceive. Constantly repositioning our forces can keep the enemy off-balance and guessing as to the efficacy of his deception plans.<sup>33</sup>

5. **WARGAME ENEMY COURSE-OF-ACTION ALTERNATIVES.** One of the most valuable methods to divine enemy intentions and avoid deception and surprise is to form a small, adjunct staff cell

composed of experienced operations officers who are provided enemy location, disposition and strength and asked to determine likely courses-of-action as if they were the enemy commanders. Operations officers bring a different insight, because of past experience, and their independent conclusions may offer the commander a rational alternative to an ambiguous enemy situation.<sup>34</sup> The point here is to have the enemy's posture viewed from an experienced tactical commander or operations officer's perspective. This is to ascertain likely enemy alternatives, independent of the G-2/G-3 staff sections, who because of their daily proximity to the matter at hand, may not be able to see the forest for the trees.

**6. PLAN TO BE SURPRISED.** It behooves the prudent commander at the operational level to plan for the unexpected by maintaining the sufficient reserves capable of reacting to a variety of enemy actions. History proves that deception and surprise are an integral part of war and that no military force, no matter how capable, is immune from them. What must be stressed here is that the commander should formulate tentative plans for dealing with the unexpected, so that the eventual instance of surprise will not lead to panic and rash decision making.

**7. "THE FEWER THE DIRECTIONS OF POSSIBLE ATTACK, THE MORE IMPORTANT A DECEPTION COVER WILL BE."**<sup>35</sup> The simplest statements are often the most profound and this one is no exception. It makes sense that as an enemy's (or our own) options are narrowed, his requirement to conduct a deception operation, to lessen his

cost in casualties and expended resources, must increase. There are times when suspicions of deception are valid, and never more so than when the likely courses of action are reduced to the minimum. It therefore should be considered axiomatic that as an adversary's options narrow, the requirement to use deception will increase accordingly.

#### THE FUTURE OF DECEPTION

America's military, in theory, will be difficult to deceive in any future conflict because we possess the intelligence collection platforms (satellites, high-altitude reconnaissance aircraft, etc.) that seem to preclude the success of such an endeavor. But such confidence in hardware and systems can also result in complacent attitudes and the dangerous practice of ignoring indicators that don't fit our preconceptions regarding enemy activity.<sup>36</sup> This is what happened to Israel in 1973. Despite excellent intelligence collection, the Israelis dismissed as impossible the option that the Egyptians might be preparing for a war in a different manner than they (the Israelis) had estimated.<sup>37</sup>

Therefore, our ability to collect adequate information will be recognized internationally. All the world realized America's capability to garner battlefield intelligence on Iraqi forces and other targets during Desert Storm. As Michael Dewar emphasizes, we have:

"In many respects returned to the Eighteenth Century state of near complete visibility on the battlefield."<sup>38</sup>



Like the commanding generals of the Eighteenth Century, our operational commanders are also able to view almost all aspects of enemy force dispositions. Technology has made the battlefield, in many respects, almost transparent, in that radar and infra-red systems allow us to look through natural and some types of man-made cover and concealment. Yet these high technology capabilities did not prevent the West from being surprised by the Soviet invasion of Czechoslovakia in 1968 and Afghanistan in 1979 or Iraq's invasion of Kuwait in 1990. Therefore, even with the most sophisticated technology available, it is possible to derive incorrect conclusions of what we are seeing on the ground, with operational or strategic surprise as the result.<sup>39</sup>

Since any future adversary will be better aware of our intelligence collection capabilities than most of our own officers, it is a sure bet that tactics to degrade these capabilities will be developed. Recall that it is not necessary that deceptions be one hundred percent successful, but only that they delay our response until it is too late to take effective counteraction.

In the future, the adversary will acknowledge our intelligence gathering superiority and simply work around it. The deception tactic of choice will be to show our analysts, via America's spaceborne and skyborne platforms, exactly what they expect to see. If our intelligence templates concerning enemy unit dispositions state that an indicator of enemy attack (or defense) is the locating of his armor and artillery at some point

behind the forward edge of the battle area (FEBA), and the adversary wants us to think that an attack (or defense) will emanate from this area vice some other, then the correct doctrinal positioning of his forces is the picture our intelligence analysts will view on their light-tables. Actual or units will be used to simulate this deception. Appropriate signals activity will be generated to corroborate the imagery. "Defectors", some high ranking, may cross over to our lines with tales of impending attack (or defense) from the area in question.

These adaptations to our high technology are already occurring. United States' Army officers acting as the "opposing forces" at the National Training Center in California demonstrated successful deception tactics which outwit our advantage in intelligence collection.<sup>40</sup> Critical "Opposing Force" assets (artillery and armor) are protected by deceptions that reinforce friendly expectations. This results in U.S. commanders committing limited deep strike assets to attacking dummy positions. Proper use of smoke and fire simulate "destruction" of enemy equipment and reinforce the result our analysts expect to see. Opposing Force units are then quickly concentrated at the decisive point of attack (or defense). Friendly units are then surprised and overwhelmed.<sup>41</sup>

A deception scheme will become part of every enemy tactical and operational battle plan. As LTC Lambert states: "Conceiving the deception plan is not an afterthought."<sup>42</sup> Deception planning will become integral to the operational or tactical

plan. Up to thirty or forty percent<sup>43</sup> of the adversary's forces will be used to conduct the required deception operation and every effort will be made by our adversaries to use our intelligence capabilities to help us deceive ourselves.

### CONCLUSIONS

Simply put, deception in war is here to stay. As American intelligence capabilities continue to improve our ability to discern adversary activity, our adversaries will correspondingly increase their deception efforts. To do otherwise would be to cede victory to American military forces and negate the reason for going to war in the first place. As Professor Handel has so aptly written concerning deception:

"In war as a rational activity, there is never a reason to make life easier for the adversary or more difficult for oneself."<sup>44</sup>

Therefore not conducting operational deceptions would be counterproductive to any adversary's war aims vis a vis the United States.

Conversely, counterdeception is a difficult task and in most cases may not totally achieve its objective. As previously mentioned, hyper-sensitivity to the possibility of enemy deception only increases our susceptibility to it.

"No counterdeception program will ever eliminate vulnerability to deception, but incremental gains in reducing vulnerability may be possible."<sup>45</sup>

Counterdeception usually falls short, not usually because of faulty analysis or intelligence shortcomings, but precisely because of the limits inherent in the intelligence process

itself.<sup>46</sup> Divining enemy intentions is a risky business simply because the adversary may be purposefully manipulating indicators to make some pattern of activity appear true when the adversary in fact intends that it is false. (The same techniques are utilized successfully by magicians and illusionists the world over.)

While there are counterdeception techniques that operational staffs can implement to reduce vulnerability to deception, it is probably best that American operational commanders realize that surprise is an integral part of war and that all sides are vulnerable to it. Therefore the first rule is to assume the enemy can deceive and surprise us, and plan accordingly. Proper placing of reserves that are prepared to react to just such a crisis are necessary. Also, the operational commander must think through, beforehand, what actions he will take in the event of surprise. This mental war-gaming may prevent panic and rash decision-making later.

American officers, serving as "Opposing Forces" commanders are already deceiving our very capable intelligence collection systems. They simply show our analysts exactly what they (the analysts) expect to find and then do the unexpected. It cannot be long until our adversaries learn to do the same.

#### ENDNOTES

1. Sun Tzu, The Art of War, trans. by Samuel B. Griffith (London: Oxford University Press, 1963).
2. The Holy Bible (Revised Standard Version), (New York: Thomas Nelson and Sons, 1952), pp. 167-176.
3. Robert I. Clark, Major, USA, The Essential Elements of Operational Surprise, (Ft. Leavenworth, Kansas: School of Advanced Military Studies, U.S. Army Command and General Staff College, June, 1987), p. 1.
4. Michael I. Handel, Strategic and Operational Deception in the Second World War, (London: Frank Cass and Company, Ltd., 1987).
5. Janice G. Stein, "Military Deception, Strategic Surprise and Conventional Deterrence: A Political Analysis of Egypt and Israel, 1971-1973", Military Deception and Strategic Surprise, edited by John Gooch and Amos Perlmutter, (New Jersey: Frank Cass and Company, Ltd., 1982), p. 98.
6. Michael I. Handel, "Intelligence and Deception", Military Deception and Strategic Surprise, edited by John Gooch and Amos Perlmutter, (New Jersey: Frank Cass and Company, Ltd., 1982), p. 122.
7. Barton Whaley, Stratagem: Deception and Surprise in War, (Cambridge: Massachusetts Institute of Technology, 1969), p. 146.
8. Michael Handel, Perception, Deception and Surprise: The Case of the Yom Kippur War, (Jerusalem: Jerusalem Post Press, 1976), p. 9.
9. Michael Dewar, The Art of Deception in Warfare, (London: David & Charles Publishers, 1989), p. 10.
10. Donald C. Daniel and Katherine L. Herbig, "Propositions on Military Deception", Strategic Military Deception, (New York: Pergamon Press, 1982), p. 5.
11. Daniel and Herbig, p. 6.
12. Daniel and Herbig, p. 10.
13. Richards Heuer, "Cognitive Factors in Deception and Counterdeception", Strategic Military Deception, p39.
14. Dewar, p. 16.

15. Heuer, p. 34.
16. Ibid., p. 35.
17. Clark, p. 26.
18. Handel, Perception, Deception and Surprise: The Case of the Yom Kippur War, p. 14.
19. Heuer, p. 43.
20. Ibid., p. 43.
21. Ibid., pp. 39-40.
22. Ibid., p. 60.
23. Stein, p. 97.
24. Ibid., p. 98.
25. Handel, Intelligence and Deception, p. 126.
26. Handel, Strategic and Operational Deception in the Second World War, p. 36.
27. Ephraim Kam, Surprise Attack, (Cambridge: Harvard University Press, 1988), p. 16.
28. Michael B. Weimer, Major, USA, Preparing to be Deceived: Counterdeception at the Operational Level of War, (Ft. Leavenworth, Kansas: School of Advanced Military Studies, U.S. Army Command and General Staff College, May, 1988), pp. 11-12.
29. Michael D. Starry, Deception and the Operational Level of War, (Ft. Leavenworth, Kansas: School of Advanced Military Studies, U.S. Army Command and General Staff College, May, 1986), p. 10.
30. Dewar, p. 195.
31. Heuer, p. 54.
32. Dewar, p. 198.
33. Weimer, p. 9.
34. Ibid., p. 23.
35. Handel, Intelligence and Deception, p. 128.

36. Charles E. Burgdorf, An Appreciation for Vulnerability to Deception at the Operational Level of War, (Ft. Leavenworth, Kansas: School of Advanced Military Studies, U.S. Army Command and General Staff College, May, 1987), p. 24.
37. Ibid., p. 23.
38. Dewar, p. 20.
39. Ibid., p. 116.
40. Richard T. Lambert, Lieutenant Colonel, USA, Deception and the World Class Opposing Force (WCOPFPR), (Ft. Irwin, California: The Center for Army Lessons Learned, January-February, 1996), pp. 1-3.
41. Ibid., p. 3.
42. Ibid.
43. Ibid.
44. Handel, Intelligence and Deception, p. 143.
45. Heuer, p. 61.
46. Stein, p. 115.

## BIBLIOGRAPHY

### Books

- Daniel, Donald C. and Herbig, Katherine L. ed. Strategic Military Deception. New York: Pergamon Press, 1982.
- Dewar, Michael. The Art of Deception in War. London: David & Charles Publishers, 1989.
- Handel, Michael. Perception, Deception and Surprise: The Case of the Yom Kippur War. Jerusalem: Jerusalem Post Press, 1982.
- \_\_\_\_\_. ed. Strategic and Operational Deception in the Second World War. London: Frank Cass and Company, Ltd., 1987.
- The Holy Bible (Revised Standard Version). New York: Thomas Nelson and Sons, 1952.
- Kam, Ephraim. Surprise Attack. Cambridge: Harvard University Press, 1988.
- Sun Tzu. The Art of War. trans. by Samuel B. Griffith. London: Oxford University Press, 1963.
- Whaley, Barton. Stratagem: Deception and Surprise in War. Cambridge: Massachusetts Institute of Technology, 1969.

### Published Articles

- Handel, Michael. "Intelligence and Deception." Military Deception and Strategic Surprise. ed. by John Gooch and Amos Perlmutter. New Jersey: Frank Cass and Company, Ltd., 1982.
- Heuer, Richards. "Cognitive Factors in Deception and Counterdeception." Strategic Military Deception. ed. by Donald C. Daniel and Katherine L. Herbig. New York: Pergamon Press, 1982.
- Lambert, Richard T. "Deception and the World-Class Opposing Force." News From the Front. Ft. Irwin, California: The Center for Army Lessons Learned, January-February, 1996.
- Stein, Janice G. "Military Deception, Strategic Surprise and Conventional Deterrence: A Political Analysis of Egypt and Israel, 1971-1973." Military Deception and Strategic Surprise. ed. by John Gooch and Amos Perlmutter. New Jersey: Frank Cass and Company, Ltd., 1982.



### Unpublished Papers

- Burgdorf, Charles E. "An Appreciation for Vulnerability to Deception at the Operational Level of War." Unpublished Research Paper. School for Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, May, 1987.
- Clark, Robert L. "The Essential Elements of Operational Surprise." Unpublished Research Paper. School for Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, June, 1987.
- Starry, Michael B. "Deception and the Operational Level of War." Unpublished Research Paper. School for Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, May, 1986.
- Weimer, Michael B. "Preparing to be Deceived: Counterdeception at the Operational Level of War." Unpublished Research Paper. School for Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, May, 1988.